

Name \_\_\_\_\_ Period \_\_\_\_\_

### Table 1

	Trial 1 - metal	Trial 2 – rubber stopper
Mass of object		
Mass of cup		
Mass of cup + water		
Temperature of tap water in the cup		
Max temperature of hot water		
Maximum temperature of water + cup + object		

### Skill 38.01 problem 1

- Convert 200. cal to joules
- Convert 587 kJ to calories

### Skill 38.02 Problem 1

Which substance in table 1 requires the most energy to heat? How do you know?

### Skill 38.03 Problem 1

Calculate the energy lost by the metal object for each trial.

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**Skill 38.04 Problem 1**

A 22.0 g piece of metal was heated to 100°C in a beaker of boiling water. The hot piece of metal was placed in 100 g of water at 25°C. The metal and the water reached thermal equilibrium at 28°C. What is the specific heat of the metal?

**Skill 38.04 Problem 2**

- (a) Calculate the specific heat of the metal for both trials.
- (b) Average the specific heats for the two trials.
- (c) Report this value to your instructor.